

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: BADGER POND	Lake Area (ha): 4.86
Town: LYNDEBOROUGH	Maximum depth (m): 2.1
County: Hillsborough	Mean depth (m): 1.1
River Basin: Merrimack	Volume (m <sup>3</sup> ): 47000
Latitude: 42°54'45" N	Relative depth: 0.9
Longitude: 71°46'10" W	Shore configuration: 1.00
Elevation (ft): 860	Areal water load (m/yr): 31.87
Shore length (m): 600	Flushing rate (yr <sup>-1</sup> ): 28.90
Watershed area (ha): 267.8	P retention coeff.: 0.42
% watershed ponded: 0.2	Lake type: natural

BIOLOGICAL:

25 February 1992

11 July 1991

DOM. PHYTOPLANKTON (% TOTAL)	#1	DINOBRYON 90%	DINOBRYON 55%
	#2		CHROOCOCCUS 25%
	#3		
PHYTOPLANKTON ABUNDANCE (cells/mL)			1200
CHLOROPHYLL-A (µg/L)			7.82
DOM. ZOOPLANKTON (% TOTAL)	#1	POLYARTHRA 58%	COLLOTHECA 44%
	#2	ASPLANCHNA 21%	NAUPLIUS LARVA 18%
	#3	CILIATE SPP. 21%	
ROTIFERS/LITER		248	1161
MICROCRUSTACEA/LITER		0	360
ZOOPLANKTON ABUNDANCE (#/L)		313	1537
VASCULAR PLANT ABUNDANCE			Common/Abun
SECCHI DISK TRANSPARENCY (m)			2.0 Visible on bottom
BOTTOM DISSOLVED OXYGEN (mg/L)		11.0	7.0
BACTERIA (fecal col., #/100 ml) #1			< 1
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None  
Hypolimnion volume (m<sup>3</sup>) : None  
Anoxic volume (m<sup>3</sup>) : None

**CHEMICAL:**

Lake: BADGER POND  
Town: LYNDEBOROUGH

	25 February 1992		11 July 1991		
DEPTH (m)	1.5		1.5		
pH (units)	6.0		6.8		
A.N.C. (Alkalinity)	6.5		10.6		
NITRATE NITROGEN	0.10		< 0.05		
TOTAL KJELDAHL NITROGEN					
TOTAL PHOSPHORUS	0.009		0.028		
CONDUCTIVITY ( $\mu$ mhos/cm)	73.9		63.7		
APPARENT COLOR (cpu)	12		33		
MAGNESIUM			0.96		
CALCIUM			4.0		
SODIUM			6.0		
POTASSIUM			0.52		
CHLORIDE	13		9		
SULFATE	5		3		
TN : TP					
CALCITE SATURATION INDEX			2.9		

All results in mg/L unless indicated otherwise

**TROPHIC CLASSIFICATION: 1991**

D.O. S.D. PLANT CHL TOTAL CLASS

**	3	4	1	8	Meso.
----	---	---	---	---	-------

**COMMENTS:**

1. No public access. All the land around the pond was privately owned. We received permission from the landowner to access the pond.
2. This pond was not listed in the 1964 State Planning report of lakes ten acres or more. It is listed as 12 acres in the recent official listing of public waters (NHDES, 1991), but the pond's open water was much less than 10 acres.
3. The pond had a very mucky bottom.
4. The wholewater phytoplankton was dominated by Cryptomonas (30%) and Closterium (15%). Cryptomonads (40%) and greens (45%) were the dominant classes.

# Badger Pond

## Lyndeborough

N



5

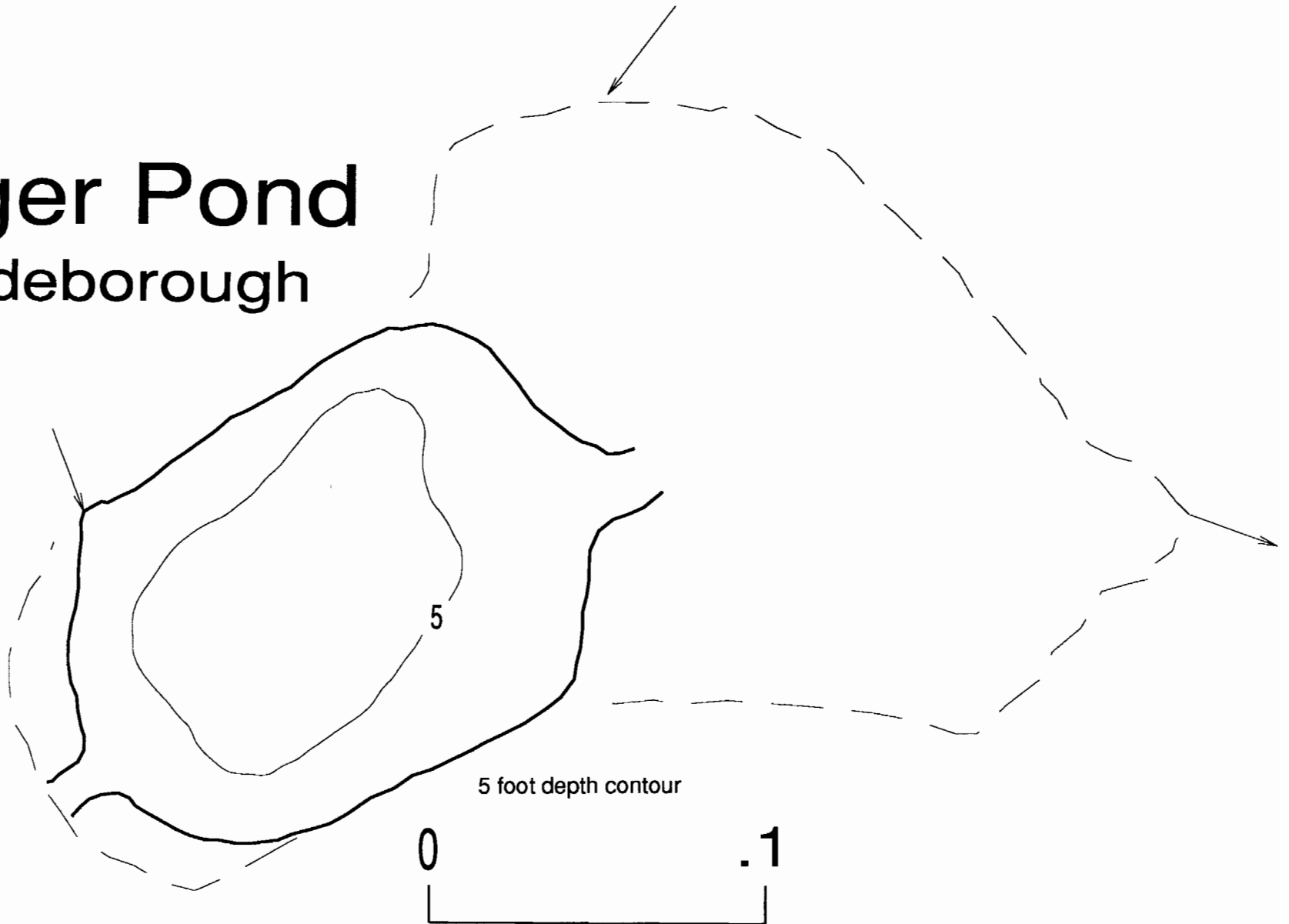
5 foot depth contour

0

.1

Km

III-10



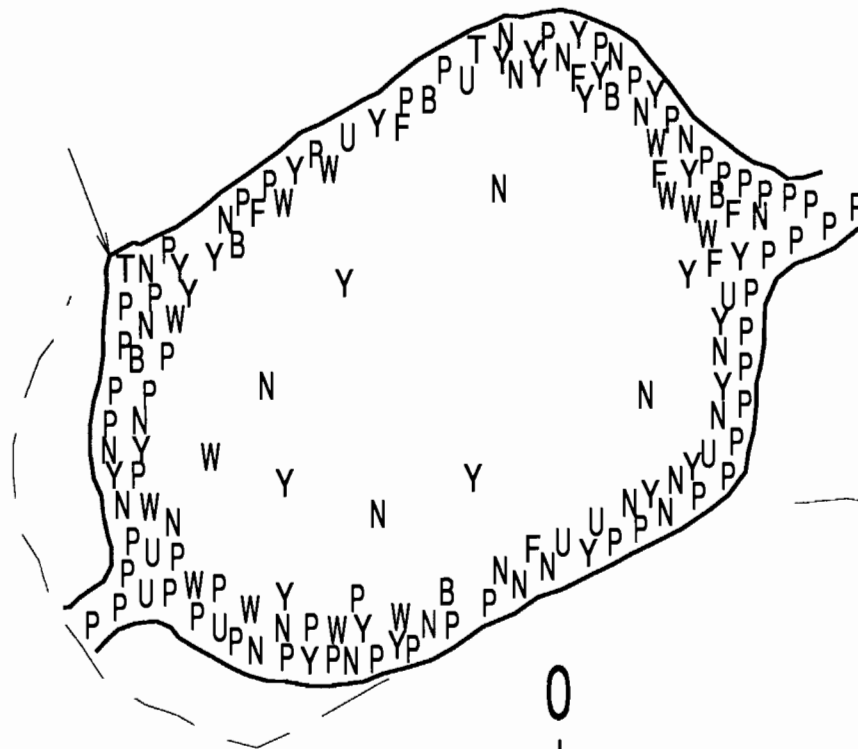
[illegible]

# Badger Pond

## Lyndeborough

III-12

N



0

.1

Km

## AQUATIC PLANT SURVEY

LAKE: BADGER POND

TOWN: LYNDEBOROUGH

DATE: 07/11/91

[illegible]

**OVERALL ABUNDANCE:** Common/Abun

**GENERAL OBSERVATIONS:**

1. The entire shoreline contained rooted plant growth.
2. Much of the lake outline as taken from the most recent topographic map was a bog. The open water of the pond was much less than 10 acres.